AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of the claims and all prior listings of the claims in the present application.

1. (currently amended) A method of reducing [[the]] a number of filter cells [[which]] that require updating in a channel equalizer of a communication system, the method comprising:

filtering a data sequence into a plurality of data values for storage in a plurality of filter cells having a plurality of adjustable coefficients;

deriving an optimum value of at least one coefficient among the coefficients;

updating [[said]] the at least one coefficient with the derived optimum value to provide [[an]] at least one updated coefficient value; [[and]]

comparing the at least one updated coefficient value to a [[given]] threshold to eliminate at least one of the filter cells from having to be updated; and

repeating, at least once, the filtering, deriving, updating, and comparing such that the updating and comparing do not occur for the at least one of the filter cells that is eliminated from having to be updated.

2. (currently amended) The method of claim 1, further comprising:

setting ~~a filter cell having~~ an updated coefficient value to zero, if the updated coefficient value is less than the threshold.

3. (currently amended) The method of claim 1, wherein [[said]] deriving an optimum value is performed during [[said]] filtering ~~of said~~ a data sequence.

4. (currently amended) A channel equalizing method, comprising:

filtering a data sequence into a plurality of data values for storage in a plurality of filter cells having a plurality of adjustable coefficients;

deriving an optimum value of at least one coefficient among the coefficients based on a training sequence associated with the data sequence currently being filtered and a known training sequence;

updating [[said]] the at least one coefficient based on the ~~obtained~~ derived optimum value, a Kalman gain, and a difference between the ~~transmitted~~ training sequence associated with the data sequence currently being filtered and the known training sequence to provide an updated coefficient value;

comparing the updated coefficient value to a [[given]] threshold; [[and]]

reducing [[the]] a number of filter cells with coefficients to be updated, based on the comparison; and

repeating, at least once, the filtering, deriving, updating, and comparing, such that the updating and comparing do not occur for the filter cells that do not have coefficients to be updated.

5. (currently amended) The method of claim 4, wherein [[said]] reducing a number of filter cells includes setting ~~a filter cell with~~ an updated coefficient value to zero, if [[said]] the updated coefficient value is less than the threshold.

6. (currently amended) A coefficient updating circuit of a channel equalizer in a communication system, the circuit comprising:

storage means storing coefficients related to data values of a received data sequence, at least one data value of [[said]] the received data sequence received in one of a plurality of filter cells, each filter cell having a coefficient related to the ~~stored~~ received at least one data value;

update means updating [[said]] the coefficients based on at least one parameter;

compare means comparing [[said]] the updated coefficients to a threshold; and

selecting means selecting filter cells of selected coefficients based on [[said]] the comparison;

wherein the coefficients of filter cells that are not selected are not updated by the update means, and

wherein the coefficients of the filter cells that are not selected are not compared to the threshold.

7. (currently amended) The circuit of claim 6, wherein [[said]] the received data sequence includes an associated training sequence, the circuit further comprising:

deriving means determining an optimum value for each coefficient based on the associated training sequence and a known training sequence.

8. (currently amended) The circuit of claim 7, wherein [[said]] the ~~updating~~ update means updates [[said]] the coefficients based on one or more of [[said]] the optimum values, a Kalman gain value, and a difference value between the associated training sequence and the known training sequence.

9. (currently amended) The circuit of claim 6, wherein [[said]] the compare means:

sets an updated coefficient to zero, if a value of [[said]] the updated coefficient is less than [[said]] the threshold, else

selects filter cells to be updated, for updated coefficients equal to or exceeding [[said]] the threshold.

10. (currently amended) A channel equalizer, comprising:

a filtering circuit filtering [[of]] a data sequence and having a plurality of filter cells to receive[[d]] data values of [[said]] the filtered data sequence, each filter cell having an adjustable coefficient; and

a coefficient updating circuit [[for]] deriving an optimum value of at least one coefficient among a plurality of coefficients during [[said]] the filtering, determining an updated coefficient value based on the optimum value, comparing the updated coefficient value to a [[given]] threshold, and setting ~~a filter cell having an~~ the updated coefficient value to zero, if the updated coefficient value is less than [[said]] the threshold;

wherein the coefficient updating circuit does not determine the updated coefficient value or compare the updated coefficient value for filter cells in which the updated coefficient value is set to zero.

11. (currently amended) A channel equalizer, comprising:

a filtering circuit filtering [[of]] a data sequence and having a plurality of filter cells to receive[[d]] data values of [[said]] the filtered data sequence, each filter cell having an adjustable coefficient; and

a coefficient updating circuit deriving an optimum value for at least one coefficient among a plurality of coefficients during [[said]] the filtering based on a training sequence associated with [[said]] the data sequence that is currently being filtered and a known training sequence, determining an updated coefficient value based on the optimum value, a Kalman gain, and a difference

between the associated training sequence and the known training sequence, comparing the updated coefficient value to a [[given]] threshold, and reducing [[the]] a number of the filter cells having coefficients to be updated, based on the comparison;

wherein the coefficient updating circuit does not determine the updated coefficient value or compare the updated coefficient value for filter cells that do not have coefficients to be updated.

12. (original) An apparatus which implements channel equalization in a communication system in accordance with the method of claim 1.

13. (original) An apparatus which implements channel equalization in a communication system in accordance with the method of claim 4.

14. (original) A channel equalizer in a communication system operating in accordance with the method of claim 1.

15. (original) A channel equalizer in a communication system operating in accordance with the method of claim 4.

16. (new) The method of claim 1, wherein a training sequence is associated with the data sequence.

17. (new) The method of claim 16, wherein the channel equalizer includes a known training sequence.

18. (new) The method of claim 17, wherein the associated training sequence is the same as the known training sequence.

19. (new) The method of claim 17, wherein the associated training sequence is not the same as the known training sequence.

20. (new) The method of claim 4, wherein repeating, at least once, the filtering, deriving, updating, and comparing comprises:

repeating, at least once, the filtering, deriving, updating, comparing, and reducing, such that the updating, comparing, and reducing do not occur for the filter cells that do not have coefficients to be updated.